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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/531,064      | 05/19/2005  | Daniel Baglione      | VA30408             | 2531             |

226 7590 12/11/2007  
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| EXAMINER |
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WILSON, GREGORY A

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

3749

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|-----------|---------------|
| MAIL DATE | DELIVERY MODE |
|-----------|---------------|

12/11/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/531,064

**Applicant(s)**

BAGLIONE, DANIEL

**Examiner**

Gregory A. Wilson

**Art Unit**

3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 36-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 36-52 and 54-58 is/are rejected.
- 7) ☒ Claim(s) 53 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments, filed 11/20/07, with respect to the rejection(s) of claim(s) 36-52 and 54-58 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Baglione et al (6,779,492) in view of Dietz (5,771,844).

Applicant's arguments, filed 11/20/07, with respect to the objection to the drawings have been fully considered and are persuasive. The objection of the drawings under 37CFR 1.83(a) has been withdrawn.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 36-52 and 54-58** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Baglione et al (6,779,492)** in view of **Dietz (5,771,844)**. **Baglione et al** discloses a circulating fluidized bed reactor (10) having a reaction chamber (12) connected by an acceleration duct (24) to a centrifugal separator (14) for separating particles from hot gases coming from the reaction chamber, a horizontal rear cage (16),

the centrifugal separator has vertical walls in transversal section, the centrifugal separator and the rear cage have a common wall (as shown in Figure 2, element 25B, column 6, lines 63-64), alternatively, the reaction chamber and the rear cage have a common wall (SEE Figure 3, element 12C, column 17, lines 6-9) (the teachings of the common walls between these varying modules also read on claim 41), additionally the reaction chamber the centrifugal separator and the rear cage collectively constitute a basic module as shown in Figures 12 & 13. With regard to claim 39, the reaction chamber and the centrifugal separator have aligned exterior walls (12C & 25A). With regard to claim 40, the power of the circulating fluidized bed reactor as a function of the number of basic modules is discussed in column 18, lines 40-44. Figure 3 shows a teaching of reaction chambers and rear cages in a combined structure as per claims 43 & 44. With regard to claim 42, the wall common to two basic modules between two centrifugal separators is a partial wall as taught in column 12, lines 48-51. With regard to claim 46, the inlet deflector of the acceleration duct consisting of tubes diverted from the walls of the reaction chamber is taught in column 12, lines 35-48. With regard to claim 47 the inlet deflector (unnumbered) of the acceleration duct is formed by rounding the tubes of the floor of the acceleration duct is taught in column 12, lines 35-48. With regard to claim 48 the floor of the acceleration duct being inclined toward the centrifugal separator is taught in column 12, lines 11-15. With regard to claim 49 the teaching of the floor of the acceleration duct being inclined toward the extrados of the acceleration duct is shown in column 12, lines 17-20. With regard to claim 50, column 6, line 33-37 discuss the gases being evacuated from the separator via a vertical evacuation duct

(30A) such that the gases are directed upwardly out of the separator. With regard to claim 51, the vertical evacuation duct (30A) is shown placed in the middle of the separator in Figures 4 & 9. The deflector (unnumbered) is shown in Figures 11-15 and are situated at the top of the separator (claim 52). Baglione et al does not particularly recite that the acceleration duct is arranged in the reaction chamber, however, the applicant has only disclosed that placing the acceleration duct in the reaction chamber allows centrifugal horizontal flow of the flue gases at the top of the chamber, which changes the speed of the particles and reduces the distance between the reaction chamber and the separator while also allowing the tubes of the reaction chamber to be used as walls of the ducts, these are limitations which are known in the art as discussed in column 4 of Dietz. Dietz also discloses a circulating fluidized bed including delivering a mixture of gas and particles into a separator (10) and teaches that an acceleration duct (12) which has a common wall with the reaction chamber, extends into the reaction chamber (14) (column 3, lines 39-44) in the same manner as that disclosed by the applicants invention. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains to have modified the acceleration duct of Baglione et al to extend into the reaction chamber as taught by Dietz for the purpose of increasing the speed of the gas and particle mixture as it is fed into the cyclone separator to better aid in the separation performance of the separator.

***Allowable Subject Matter***

**Claim 53** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory A. Wilson whose telephone number is (571)272-4882. The examiner can normally be reached on 7 am - 4:30 pm EST.

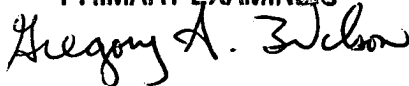
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GREGORY WILSON  
PRIMARY EXAMINER



Gaw

December 3, 2007